

What is claimed is:

1. A reduced mask process for forming a fast recovery diode comprising the steps of forming a field oxide atop a silicon die; applying a first mask to said top surface of said field oxide and etching a large area window in the center thereof and leaving an outer oxide termination ring; diffusing impurity atoms through said window to define a large area P/N junction; applying a second mask to said surface and etching a window therein to clear said central area for the application of an anode contact; evaporating platinum metal on the back surface of said die and heating said die to drive platinum atoms into said die; depositing metal atop said top surface of said die and to the top of the P/N junction and over the oxide termination ring; and applying a third mask to said top surface and opening windows to etch said metal to define an anode contact which overlies the inner periphery of said termination ring and a separate EQR ring which overlies the outer periphery of said termination ring.

2. The process of claim 1, wherein said platinum metal has a thickness of about 10Å and is driven at about 950°C for about 30 minutes.

3. The process of claim 1, which includes the further step of depositing an amorphous silicon layer atop said die surface, and a further mask step for removing said amorphous silicon from atop the active P/N junction area and leaving it atop and in contact with said field plate and said EQR ring.

4. The process of claim 2, which includes the further step of depositing an amorphous silicon layer atop said die surface, and a further mask step for clearing said amorphous silicon from atop the active P/N junction area and leaving it atop and in contact with said field plate and said EQR ring.

5. The process of claim 4, which includes a further mask step for defining a plurality of spaced floating guard ring diffusions in said upper surface of said die which are spaced between said field plate and an adjacent outer field plate.